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Cruise Report

RV OCEANUS 38

19426 Jan. 1978

Brad Butman
USGS
Woods Hole, Ma.

Ship: RV OCEANUS

Cruise: 38

Area: Georges Bank and New Jersey continental shelf

Dates: Depart Woods Hole 1200 19 Jan. 1978

Return Woods Hole 1800 26 Jan. 1978

Objectives:

The purpose of the cruise was to retrieve 2 tripods and 1 current mooring, to deploy 4 tripods and 3 current moorings, and to conduct XBT and CTD observations as weather and time permitted. The cruise was part of continuing study of currents and sediment transport on the U.S. East Coast Continental Shelf.

Personnel:

Paul Howland Master

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Narrative:

19 Jan. 1100 Depart Woods Hole
XBT and surface salinity samples

Jan. 0000 Arrive mooring station K. Snowing, seas moderate
Deploy two surface markers
Deploy tripod (USGS mooring 138)
Deploy VACM mooring (USGS mooring 144)

0400 Mooring work complete. Loran C not working well in
snow. Tripod approx. 300' from surface buoys. Current
mooring is 1/2 mi. from surface buoys.

0800 Verified tripod and current mooring upright.

0900 Underway to Station A

0930 Weather too rough to work. Plan to seek shelter in lee of
Marthas Vineyard for evening. Wind 40-60 knots
snow predicted

2100 Anchored S. of Vineyard

21 Jan. 0930 Underway to N. Jersey shelf (weather still too
rough to work on Georges Bank. Expect first weather
window to occur at western-most stations off N.J. Proceed
in lee of Long Island, close to shore.)

1700 Commence XBT and CTD transect across shelf

2300 At tripod Station E
Deploy surface marker

22 Jan. 0114 Deploy tripod (USGS mooring 141). Verified upright

0200 Underway to mooring Station B.
XBT and CTD observations

1100 Midway across N. Jersey shelf XBT and CTD observations.

1430 Arrive mooring Station B. NOAA EB41 and USGS marker
buoy both missing. Tripod on station and upright.

1550 Recover tripod. (USGS mooring 135)
Heavy growth on frame and sensors.

1645 Deploy tripod (USGS mooring 140)
Verified upright

1727 Deploy VACM mooring (USGS mooring 146)
All deployments smooth in calm seas (and daylight).
Surface grab sample
Underway CTD and XBT observations.

23 Jan. Underway on N.J. shelf. XBT and CTD observations along 60 m. isobath.
Three surface grab samples, (one at tripod Station E, two in mud area for grain size and Pb 210 analysis).

24 Jan. 1100 Underway XBT and CTD observations along 60 m. isobath.
Arrive Georges Bank Station A.
Tripod and current mooring upright.
Recover current mooring (USGS mooring 137)
Recover tripod (USGS mooring 136)

1453 Recover and deploy surface marker with current meter at 15 m (part of USGS mooring 145)

1552 Deploy tripod (USGS mooring 139)
Verified tripod upright

1658 Deploy current mooring (USGS mooring 145)

Check buoy lights (Removed lamp changer from western surface marker-flooded. Hauled eastern marker and replaced lamp changer. Battery voltage O.K.)
Southern and western buoy of square lighted.
Bottom grab sample at station A
Weather calm. All mooring operations smooth

25 Jan. XBT and CTD observations, S. side of Georges Bank and Nantucket Shoals
Revisited Station K. Grab sample and located tripod and current mooring with respect to surface marker. (poor navigation due to snow when originally set).

20 Jan. 0930 Vineyard Sound wind too strong to dock at WHOI pier. Anchored in Menemsha Bight.

1800 Arrived WHOI pier.

Preliminary data analysis:

1. Mooring 135 (Tripod, N. J. shelf, sta. B)

The instruments were heavily fouled with biological growth upon recovery. A 30 - 40 ft. piece of magnetic computer tape was wrapped around one leg. The growth was the heaviest observed at this station to date. The camera functioned for the entire deployment although fouling may limit photograph clarity. Preliminary analysis of the data show that the data logger functioned for approximately two and one half months. The A - D portion of the instrument failed after approximately 15 days (controls samples of temperature and transmission). Current pressure, and wave data should be good for the entire record.

2. Mooring 136 (Tripod, Georges Bank, sta. A)

The instrument frame was heavily fouled upon recovery. The camera strobe was damaged on deployment from the RV ADVANCE II (see cruise report) and the programmer line was grounded; all film was expended in the first day of deployment. The data logger functioned for approximately 2 months.

3. Mooring 137 (Current Mooring, 2 VACM)

Both instruments functioned for the entire period with good quality data.

Instrumentation Recovered

1. Mooring 135 (Sta. B. Mid Atlantic) (tripod)
 $38^{\circ} 43.7' N$ $73^{\circ} 37.5' W$
2. Mooring 136 (Sta. A. Georges Bank) (tripod)
 $40^{\circ} 51.4' N$ $67^{\circ} 24.1' W$
3. Mooring 137 (Sta. A. Georges Bank) (2 VACM)
 $40^{\circ} 51.4' N$ $67^{\circ} 24.1' W$

Instrumentation Deployed

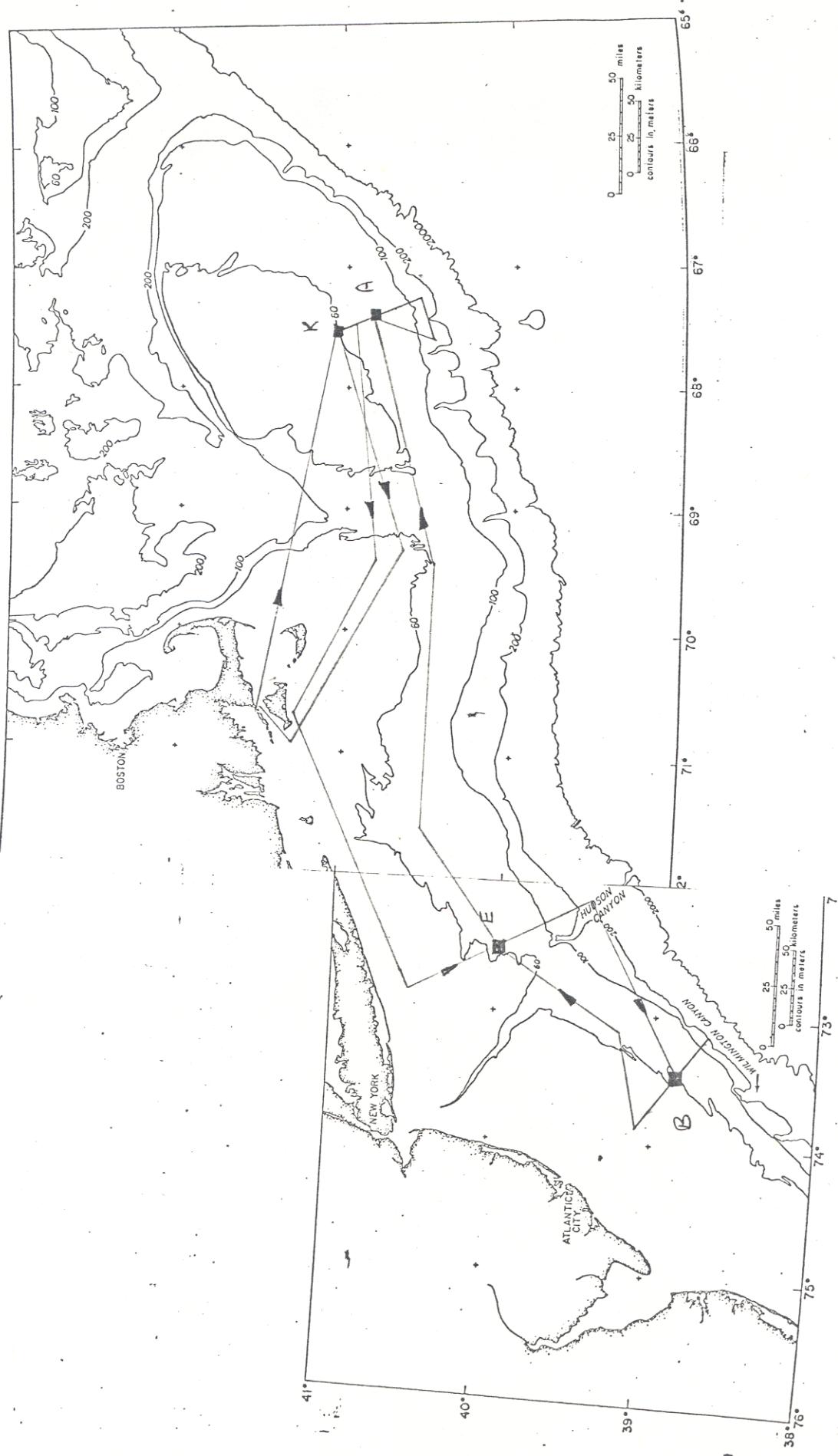
1. Mooring 138 (Sta. K. Georges Bank) (Tripod and 2 surface buoys)
 $41^{\circ} 03.9' N$ $67^{\circ} 34.0' W$
2. Mooring 139 (Sta. A. Georges Bank) (Tripod and surface buoy)
 $40^{\circ} 51.4' N$ $67^{\circ} 24.1' W$
3. Mooring 140 (Sta. B. Mid Atlantic) (Tripod)
 $38^{\circ} 43.5' N$ $73^{\circ} 37.0' W$
4. Mooring 141 (Sta. E. Mid Atlantic) (Tripod and surface buoy)
 $39^{\circ} 57.1' N$ $72^{\circ} 35.6' W$
5. Mooring 144 (Sta. K. Georges Bank) (Current mooring)
 $41^{\circ} 03.9' N$ $67^{\circ} 34.0' W$
1 VACM (1m) and 1 VACM -TR (4m) from bottom
6. Mooring 145 (Sta. A. Georges Bank) (Current mooring)
 $40^{\circ} 51.4' N$ $67^{\circ} 24.1' W$
3 VACM (15, 45, 75 m)
7. Mooring 146 (Sta. B. Mid Atlantic) (Current mooring)
 $38^{\circ} 43.5' N$ $73^{\circ} 36.5' W$
1 VACM (1m) and 1 VACM-TR (4m) from bottom

Stations

Surface Salinity	130
XBT	96
CTD	31
Surface grab samples (USGS Stations 4700 - 4706)	6

19-26 January, 1978

Approximate cruise track RV OCEANUS 38



OCEANUS 38 Station List

19 - 26 Jan. 1978

Station	Date	Lat.	Long	Depth	XBT	CTD	SS
1	1/19	41 26	70 10				X
2		41 26.4	70 01.7				X
3		41 24.9	69 55.0				X
4		41 25.5	69 49.0				X
5		41 26.3	69 43.2		X		X
6		41 25.7	69 38.4	28	X		X
7		41 23.8	69 26.5	32	X		X
8		41 21.6	69 12.9	128	X		X
9		41 19.0	69 00.5	154	X		X
10		41 16.3	68 46.7	99	X		X
11		41 14.7	68 34.4	60	X		X
12		41 12.7	68 21.5	55	X		X
13		41 09.6	68 09.0	33	X		X
14		41 07.4	67 55.5	50	X		X
15		41 04.9	67 42.0	50	X		X
16	1/20	41 04.8	67 34.0	61	X		X
17		41 01.9	67 32.0	64	X		X
18	1/21	40 38.2	72 34.3	38	X		X
19		40 29.0	72 35.1	45	X		X
20		40 23.5	72 35.1	54	X		X
21		40 16.5	72 33.5	54		X	X
22		40 10.8	70 35.1	59	X		X
23		40 07.0	72 34.0	56		X	X
24		40 02.5	72 34.0	60	X		X

Sta.	Date	Lat.	Long.	Depth	XBT	CTD	SS
25	1/22	39 56.7	72 35.3	60		X	X
26		39 53.0	72 30.5	68	X		X
27		39 49.4	72 25.2	80		X	X
28		39 45.2	72 19.5	75	X		X
29		39 42.7	72 15.0	110		X	X
30		39 38.3	72 09.6	135	X		X
31		39 35.7	72 05.5	155	X		X
32		39 33.8	72 03.9	277		X	X
33		39 30.1	72 14.6	206	X		X
34		39 29.4	72 18.5	480	X		X
35		39 28.4	72 20.7	130	X		X
36		39 22.6	72 40.2	107	X		X
37		39 16.6	72 57.4	70	X		X
38		39 08.4	73 08.1	66	X		X
39		38 59.7	73 16.5	71	X		X
40		38 50.8	73 25.5	67	X		X
41		38 28.6	73 18.6	268	X	X	X
42		38 31.9	73 22.7	112	X		X
43		38 34.4	73 25.3	82	X		X
44		38 35.2	73 26.5	82	X	X	X
45		38 39.2	73 31.5	70	X		X
46		38 43.1	73 36.1	59		X	X
47		38 46.2	73 40.8	46	X		X
48	1/23	38 49.8	73 46.3	51		X	X
49		38 51.5	73 48.8	35	X		X
50		38 54.3	73 53.3	42	X		X

Sta.	Date	Lat.	Long.	Depth	XBT	CTD	SS
51		38 56.8	73 56.2	42		X	X
52		39 12.4	73 12.9	55	X		X
53		39 28.0	72 59.5	64		X	X
54		39 43.2	72 45.5	80	X		X
55		39 57.2	72 33.6	51		X	
56		39 58.0	72 32.5	67	X		
57		39 57.2	72 35.6	56		X	
58		40 00.9	72 39.8	62	X		X
59		40 01.8	72 35.4	62	X		X
60		40 02.7	72 28.0	62	X		X
61		40 06.5	72 21.8	70	X		X
62		40 12.8	72 06.5	68	X		X
63		40 23.5	71 53.2	74	X		X
64		40 36.5	71 37.0	80		X	X
65		40 37.6	71 18.1	65	X		X
66		40 38.4	70 59.5	64		X	X
67		40 37.3	70 47.5	68	X		X
68		40 38.8	70 34.4	57		X	X
69		40 38.7	70 22.1	61	X		X
70		40 38.0	70 09.9	51		X	X
71		40 36.5	69 55.9	60	X		X
72		40 34.5	69 39.3	65	X		X
73	1/24	40 35.7	69 32.7	56		X	X
74		40 37.2	69 19.4	62	X		X
75		40 37.6	69 05.9	76		X	X
76		40 37.7	68 55.8	72	X		X

Sta.	Date	Lat.	Long.	Depth	XBT	CTD	SS
77		40 38.1	68 45.3	63		X	X
78		40 40.9	68 31.3	58	X		X
79		40 46.3	68 18.5	60	X		X
80		40 49.7	68 05.0	64		X	X
81		40 49.9	67 43.6	69	X		X
82		40 49.8	67 23.5	91	X		X
83		40 46.7	67 25.2	93	X		X
84		40 42.8	67 26.5	97	X		X
85	1/25	40 38.1	67 29.2	98	X		X
86		40 33.8	67 31.3	112	X		X
87		40 28.3	67 34.8	148	X		X
88		40 25.2	67 36.5	165	X		X
89		40 23.9	67 35.6	168	X		X
90		40 23.5	67 35.1	193	X		X
91		40 26.3	67 29.1	208	X		X
92		40 25.7	67 27.2	249	X		X
93		40 25.9	67 26.0	303	X		X
94		40 26.7	67 22.9	279	X		X
95		40 27.8	67 19.3	231	X		X
96		40 29.8	67 16.2	187		X	X
97		40 32.4	67 17.5	149	X		X
98		40 34.4	67 18.2	123		X	X
99		40 38.5	67 20.4	98	X		X
100		40 41.8	67 21.2	100	X		X
101		40 45.2	67 23.0	96		X	X

Sta.	Date	Lat.	Long.	Depth	XBT	CTD	SS
102		40 47.9	67 24.2	91	X		X
103		40 51.2	67 24.9	85		X	X
104		40 55.0	67 27.0	74	X		X
105		40 58.5	67 29.1	64		X	X
106		41 02.0	67 31.1	67	X		X
107		41 04.1	67 33.0	60		X	X
108		41 07.2	67 35.9	53	X		X
109		41 11.8	67 39.5	50	X		X
110		41 21.5	67 46.4	44	X		X
111		41 24.8	68 04.6	42	X		X
112		41 26.4	68 16.9	50	X		X
113	1/25	41 27.4	68 23.0	62	X		X
114		41 29.5	68 30.0	89		X	X
115		41 24.7	68 40.1	99	X		X
116		41 21.5	68 50.0	133	X		X
117		41 19.6	69 00.1	141		X	X
118		41 11.4	69 01.0	102	X		X
119		41 01.5	69 01.9	76.8		X	X
120		40 51.6	69 02.2	88	X		X
121		40 44.8	69 04.2	79	X		X
122	1/26	40 34.2	69 05.9	140	X		X
123		40 36.0	69 19.1	63	X		X
124		40 37.7	69 32.2	56	X		X
125		40 39.7	69 45.1	48	X		X
126		40 42.5	69 58.6	48	X		X

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Station List

Sta.	Date	Lat.	Long.	Depth	XBT	CTD	SS
127		40 44.3	70 07.1	48	X		X
128		40 51.2	70 20.0	40	X		X
129		41 01.0	70 34.4	49	X		X
130		41 09.7	70 48.4	32	X		X

Bottom Grab Station

4700	1/22	38	43.5	73	36.5
4701	1/23	39	37.1	72	35.6
4702	1/23	30	38.4	70	59.5
4703	1/23	40	38.8	70	34.4
4704	1/24	40	50.7	67	24.2
4705	1/25	41	04.1	67	33.0